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ANALYSIS OF THE FATS AND OILS INDUSTRY TO 1980

With Implications for Palm Oil Imports

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ABSTRACT

The outlook for the domestic fats and oils industry between now and 1980 has been analyzed in light of the world supply and demand picture. Domestic per capita consumption of food fats and oils is expected to increase to 60 pounds by 1979/80. To meet this demand, imports of palm, coconut, and palm kernel oils are expected to remain strong but below the 1975/76 levels. The high palm oil imports during the past 2 years resulted from shortfalls in U.S. fats and oils production and wide price spreads between palm and soybean oils. Palm oil production is expected to continue expanding to 4.7 million metric tons by 1980. Soybean oil prices may decline to the 12-14 cent per pound range but meal prices will mostly offset, thereby maintaining soybean prices in the $4.30-$4.85 per bushel range.

KEYWORDS: Palm oil, soybeans, imports.

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Washington, D. C. 20250 May 1976

PREFACE

Farmers, legislators, and industry leaders have become greatly concerned in recent months over the increased palm oil imports and their impacts on the U.S. fats and oils economy. The Agricultural Policy Working Group at its March 10, 1976, meeting agreed that a study was needed to examine the implications of the imports. The Economic Research Service (ERS) was asked to do this study. On March 18, 1976, the Sub-Committee on Oilseeds and Rice of the House Committee on Agriculture held hearings on the subject at which Assistant Secretary of Agriculture Bell testified. He indicated that the study was underway, plus another study concerned with U.S. Government policy regarding loans made for palm oil production by international lending institutions.

Herein, we focus on the series of events over the past several years which led to increased palm oil imports and we project import levels through 1979/80. The Agricultural Policy Working Group approved the ERS study at its April 22 meeting with a recommendation that it be transmitted to Congress and disseminated at an early date.

SUMMARY

Domestic per capita consumption of food fats and oils is expected to increase from 55 pounds in 1974/75 to 60 pounds in 1979/80. To meet this demand, imports of palm, coconut, and palm kernel oils are expected to remain strong (between 11 and 12 percent of domestic consumption). The imports, however, probably will be below the 1975/76 levels (about 18 percent of domestic consumption) since current heavy stocks of domestic food fats and oils are expected to be worked down to more normal levels by 1979/80.

World demand and supply conditions indicate soybean oil prices in the 12-14 cents per pound range for 1976/77 to 1979/80, below recent price levels. Soybean oil is expected to maintain its dominant position and comprise 60 percent of U.S. fats and oils consumption in 1979/80.

Soybean meal prices are expected to offset much of the change in soybean oil prices, thereby maintaining soybean prices to U.S. producers in the $4.30-$4.85 per bushel range in the 1976/77 to 1979/80 period. In this price range, variable costs are covered but returns to land and management could be low.

High U.S. palm oil imports during the past 2 years resulted from shortfalls in U.S. fats and oils production and wide price spreads between palm and soybean oils. In 1975 the United States was the largest importer (436 thousand metric tons) followed by West Germany (210 thousand) and the United Kingdom (206 thousand). U.S. imports increased from 207 million pounds in 1970/71 to a forecasted peak of 1 billion pounds in 1975/76 and are expected to decline and range between 550 and 700 million pounds per year through 1979/80.

Total world production of palm oil increased from 1.7 million metric tons in 1970 to 2.9 million in 1975 and is projected to increase to 4.7 million by 1980. Palm oil increased from 4.3 percent of world fats and oils production in 1970 to 6.3 percent in 1975.

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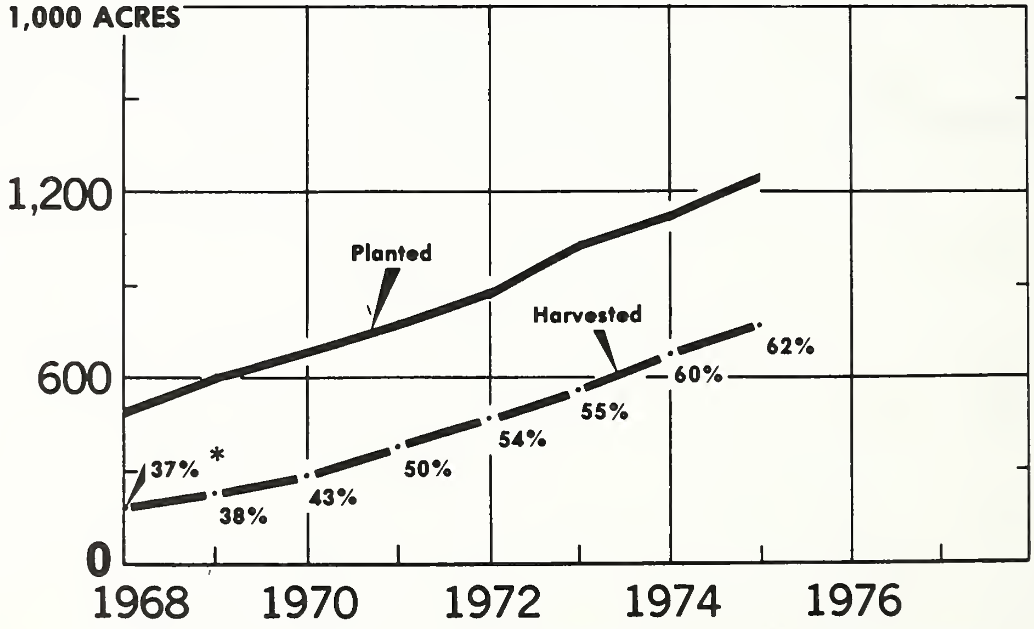
WEST MALAYSIA OIL PALM PLANTATION ACREAGE



* HARVESTED AS A PROPORTION OF TOTAL PLANTED AREA. 1974 AND 1975 FORECAST.

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Recent large imports of palm oil into the U.S. coupled with the expected sharp increase in world palm oil production by 1980 have created concern in the domestic oilseeds industry as to what the future holds. Two sets of issues are involved. One set is associated with the long run outlook if additional acreage is planted to oil palms. The second set concerns the outlook between now and 1980 given the economic forces presently in existence. The purpose of this paper is to analyze the nearer term outlook for the domestic fats and oils industry in context with the world supply and demand picture.

Palm Oil--World Production and Trade

Palm oil is produced in Malaysia, Indonesia, Zaire, Nigeria, Ivory Coast, Dahomey, and Cameroon. Total world production of palm oil increased from 1.7 million metric tons in 1970 to 2.9 in 1975 (table 1). Production in 1976 is estimated to increase again to 3.2 million metric tons. In 1970 palm oil represented 4.3 percent of world fats and oils production but had increased to 6.3 percent by 1975.

Malaysia is by far the largest single palm oil producer, accounting for nearly 50 percent of total world production. About a 4-year lag exists between planting and production of oil. Peak production is reached after 10 years and expected productive life is about 30 years. The figure shows the acreage planted in Malaysia since 1968. Based on existing acreage planted it is estimated that Malaysia's production of palm oil will about double by 1980. This will lead to an expansion in world production to a projected 4,700 thousand metric tons by 1980 compared with 2,865 thousand in 1975. 1/

Exports play a major role in the demand for palm oil, accounting for over 50 percent of total world production since 1971. In 1975 it is estimated that 60 percent of palm oil production entered world trade. West Malaysia is the largest exporter with over 90 percent of its production exported.

The European Community is the largest importer of palm oil, using about 737 thousand metric tons in 1975 (table 2). The largest single importer that year was West Germany totaling 210 thousand metric tons. West Germany is followed in importance by the United Kingdom and the Netherlands at 206 and 185 thousand metric tons respectively.

1/ Foreign Agricultural Service projection.

Table 1.--Palm oil: Production and exports, in major producer-exporter countries and the world, annual 1965-75 with projections for 1976-80

Calendar year	West Malaysia	Sabah	Indonesia	Ivory Coast	Zaire	Subtotal	Other	World total
				--1,000 metric tons--				
Production:								
1965	149	2	165	28	125	469	809	1,278
1966	186	3	175	28	130	522	799	1,321
1967	217	9	174	30	149	579	625	1,204
1968	265	18	188	31	203	705	691	1,396
1969	326	26	189	38	196	775	774	1,549
1970	403	27	216	52	201	899	816	1,715
1971	551	38	248	55	190	1,082	825	1,907
1972	659	72	269	93	190	1,283	860	2,143
1973	740	73	290	111	185	1,399	851	2,250
1974	942	104	351	145	175	1,700	894	2,610
1975 1/	1,135	121	370	155	165	1,946	919	2,865
1976 2/	1,350	150	396	174	168	2,238	937	3,175
1977 3/								3,575
1978 3/								3,945
1979 3/								4,330
1980 3/								4,700
Exports:	4/							
1965	141	2	126	5/	77	346	204	550
1966	181	3	177	5/	78	439	194	633
1967	180	9	133	5/	108	430	66	496
1968	268	18	152	5/	141	579	49	628
1969	331	26	179	1	125	662	45	707
1970	372	29	159	13	119	692	50	742
1971	535	38	187	28	112	900	67	967
1972	628	72	232	48	87	1,067	30	1,097
1973	740	73	258	55	70	1,196	22	1,218
1974	871	88	282	100	62	1,403	37	1,440
1975 1/	1,066	127	330	120	53	1,696	39	1,735
1976 2/	1,350	150	365	140	40	2,045	50	2,095
1977 3/								2,425
1978 3/								2,750
1979 3/								3,100
1980 3/								3,425

1/ Estimated.
2/ Forecast.
3/ Projected.
4/ Includes unofficial estimates of refined and semirefined palm oil which are not officially reported.
5/ Net imports.
SOURCE: Foreign Agricultural Service.

Table 2.--Palm oil: Imports by major importing countries, annual 1967-75

Continent and Country	1967	1968	1969	1970	1971	1972	1973	1974 1/	1975 2/
	--1,000 metric tons--								
North America:									
Canada	9.8	8.5	16.4	12.1	12.9	30.9	19.6	16.2	119.0
United States	29.1	46.9	72.4	63.9	98.4	195.6	177.0	186.6	435.6
Total	38.9	55.4	88.8	76.0	111.3	226.5	196.6	202.8	554.6
Europe:									
Belgium-Luxemburg	28.0	27.8	22.3	25.5	26.1	22.7	25.0	26.0	29.7
Denmark	1.4	1.2	3.5	4.6	10.5	8.3	9.8	9.7	8.3
France	42.1	35.1	35.2	41.1	48.7	43.0	57.3	56.3	49.6
Germany, West	99.1	126.4	132.5	115.9	150.2	151.4	151.6	133.0	210.0
Ireland	2.5	2.3	3.3	3.8	4.0	4.2	6.3	4.3	4.0
Italy	36.3	37.1	53.4	42.9	53.7	52.0	56.5	53.6	45.0
Netherlands	64.6	71.1	77.4	89.3	129.1	161.0	160.1	146.9	185.0
United Kingdom	98.7	108.7	139.4	162.4	222.7	208.0	244.1	223.2	205.8
Total, EC	372.7	409.7	467.0	485.5	645.0	650.6	710.7	653.0	737.4
Austria	.1	.2	.3	3.2	5.1	2.4	1.6	4.0	6.5
Poland	2.2	1.7	3.9	1.5	5.3	7.5	9.9	17.8	17.0
Portugal	15.6	14.3	17.8	19.3	19.5	17.8	15.8	21.9	18.4
Spain	.7	2.0	7.5	4.3	4.3	6.7	7.4	5.8	5.3
Sweden	1.8	3.0	3.5	4.6	8.3	8.4	4.8	7.8	14.0
Total	393.1	430.9	500.0	518.4	687.5	693.4	750.2	710.3	798.6
Africa:									
Ivory Coast	1.0	2.0	1.1	3/	3/	3/	0	0	0
Kenya	2.2	6.3	12.1	6.8	15.5	14.8	17.0	13.9	13.0
Total	3.2	8.3	13.2	6.8	15.5	14.8	17.0	13.9	13.0
Asia:									
Iraq	51.9	54.0	58.3	66.0	78.4	81.9	105.4	125.0	120.0
India	7.6	1.5	.3	3/	.7	.7	51.5	53.1	6.0
Japan	22.0	28.1	41.8	40.3	40.9	54.9	100.3	115.3	107.7
Pakistan	8.5	.1	1.0	1.6	1.0	2.8	1.0	27.2	177.5
Philippines	6.3	8.2	8.2	5.2	6.6	2.9	3.0	3.8	1.0
Singapore (net imports)	5.0	-33.0	3/	7.5	17.6	17.6	29.9	39.0	-12.7
Total	101.3	58.9	109.6	120.6	145.2	160.8	291.1	363.4	399.5
Grand total	536.5	553.5	711.6	721.8	959.5	1,095.5	1,254.9	1,290.4	1,765.7

1/ Preliminary. 2/ Estimated. 3/ Less than 50 tons. SOURCE: Foreign Agricultural Service.

Asia is also an important consumer of palm oil importing 400 thousand metric tons in 1975. Iraq and Japan are major importers. In 1975 palm oil imports into Pakistan increased spectacularly to 177 thousand metric tons from 27 thousand in 1974.

The U.S. has recently become a major user of palm oil importing 436 thousand metric tons in 1975, up from 177 thousand in 1973.

Domestic Palm Oil Use

Domestic disappearance of palm oil has increased sharply from 124 million pounds in 1970 to 870 million in 1975. Most of the palm oil imports have gone into shortening--some 85 to 90 percent (table 3). Primarily for quality reasons, palm oil is used to a lesser extent in margarine and cooking oil. However, with technological improvements and competitive prices, palm oil use could expand in these products as well.

Advantages and Disadvantages of Palm Oil

Technical Properties

Physical and chemical characteristics of palm oil allow it to be used in a wide variety of applications. Considerable research work has been done and additional work is underway to enhance the quality of palm oil and improve the properties desired in end use markets.

Palm oil is solid at room temperature. It has a melting point of 105°F. The smoke point is 430°F, which makes it desirable for deep fat frying operations such as potato chips or other snack type foods. Shortenings made from palm oil may be hydrogenated to decrease unsaturation and improve oxidative stability for a longer shelf life. Shortenings made with palm oil have excellent plasticity and yield high quality end products.

Using palm oil as a major food ingredient, fat systems have been designed for use in bakery products, icings, filling creams, cookies, cakes, puff pastry, and general purpose shortening uses as well as frying. Palm oil has also been used as a minor ingredient in margarine oil, coffee whitener fats, hard butters, and pan lubricants.

The steam refining processes developed in the U.S. when applied to crude palm oil have resulted in major improvements in the quality of palm oil. They have had a beneficial effect both on flavor and color of palm oil. This refining treatment now gives palm oil a bland flavor and a more

Table 3.--U.S. Consumption by uses of food oils, total nonfood and domestic disappearance, and percent of total, calendar years 1970-75

Item	Shortening	Percent of total	Margarine	Percent of total	Salad and cooking	Percent of total	Other edible	Percent of total	Total food	Percent of total	Non-food 2/	Domestic use	Percent of total
							1,000 pounds						
1970:													
Soybean	2,181,553	60.9	1,409,677	78.6	2,213,684	71.2	37,595	1.6	5,842,509	53.8	469,909	6,312,418	52.7
Cottonseed	275,844	7.7	67,513	3.8	526,752	16.9	103,910	4.4	974,019	9.0	76,726	1,050,745	8.8
Palm	89,906	2.5	618	---	---	---	13,698	.6	104,222	1.0	19,873	124,095	1.0
Butter (fat content)	---	---	---	---	---	---	890,158	37.4	890,158	8.2	---	890,158	7.4
Tallow edible and lard	952,803	26.6	98,809	5.5	---	---	941,985	39.6	1,993,597	18.4	34,423	2,028,020	16.9
Other 1/	79,950	2.3	217,295	12.1	368,896	11.9	390,235	16.4	1,056,376	9.6	515,351	1,571,727	13.2
Total	3,580,056	100.0	1,793,912	100.0	3,109,332	100.0	2,377,581	100.0	10,860,881	100.0	1,116,282	11,977,163	100.0
1971:													
Soybean	2,047,222	58.3	1,385,277	75.7	2,348,218	74.3	35,684	1.7	5,816,401	55.2	452,916	6,269,317	53.9
Cottonseed	167,788	4.8	63,440	3.5	441,962	14.0	47,666	2.3	720,856	6.8	82,656	803,512	6.9
Palm	170,870	4.9	1,043	.1	---	---	17,673	.9	189,586	1.8	18,680	208,266	1.8
Butter (fat content)	---	---	---	---	---	---	860,354	42.1	860,354	8.2	---	860,354	7.4
Tallow edible and lard	1,037,162	29.6	168,343	9.2	---	---	883,664	43.2	2,089,169	19.8	49,654	2,138,823	18.4
Other 1/	86,466	2.4	213,059	11.5	371,381	11.7	199,041	9.8	869,947	8.2	488,540	1,358,487	11.6
Total	3,509,508	100.0	1,831,162	100.0	3,161,561	100.0	2,044,082	100.0	10,546,313	100.0	1,092,446	11,638,759	100.0
1972:													
Soybean	2,162,600	58.6	1,461,000	77.5	2,532,737	75.2	37,200	1.9	6,193,537	56.7	446,100	6,639,637	55.0
Cottonseed	189,100	5.1	65,200	3.5	441,300	13.1	72,955	3.7	768,555	7.0	110,295	878,850	7.3
Palm	284,906	7.7	1,383	.1	---	---	42,305	2.1	328,594	3.0	10,212	338,806	2.8
Butter (fat content)	---	---	---	---	---	---	837,110	42.3	837,110	7.7	---	837,110	6.9
Tallow edible and lard	935,876	25.4	138,088	7.3	---	---	799,645	40.4	1,873,609	17.2	73,306	1,946,915	16.1
Other 1/	118,026	3.2	220,168	11.6	395,935	11.7	189,196	9.6	923,325	8.4	508,170	1,431,495	11.9
Total	3,690,508	100.0	1,885,839	100.0	3,369,972	100.0	1,978,411	100.0	10,924,730	100.0	1,148,083	12,072,813	100.0
1973:													
Soybean	2,267,800	61.0	1,491,200	78.9	2,506,364	71.1	36,100	2.0	6,301,464	57.4	457,200	6,758,664	55.6
Cottonseed	198,900	5.3	62,800	3.3	595,600	16.9	44,628	2.4	901,928	8.2	120,393	1,022,321	8.4
Palm	333,494	9.0	6,924	.4	12,705	.4	22,195	1.2	375,318	3.4	12,676	387,994	3.2
Butter (fat content)	---	---	---	---	---	---	811,650	44.1	811,650	7.4	---	811,650	6.7
Tallow edible and lard	783,045	21.1	79,148	4.2	---	---	707,639	38.5	1,569,832	14.3	33,929	1,603,761	13.2
Other 1/	135,993	3.6	250,854	13.2	409,596	11.6	217,897	11.8	1,014,340	9.3	557,227	1,571,567	12.9
Total	3,719,232	100.0	1,890,926	100.0	3,524,265	100.0	1,840,109	100.0	10,974,532	100.0	1,181,425	12,155,957	100.0
1974:													
Soybean	2,177,151	60.2	1,456,594	76.5	2,844,155	76.5	28,523	1.8	6,506,423	60.3	505,755	7,012,178	58.5
Cottonseed	194,350	5.4	57,891	3.0	525,683	14.1	---	---	777,924	7.2	103,308	881,232	7.4
Palm	303,948	8.4	---	---	---	---	27,500	1.8	331,448	3.1	11,300	342,748	2.9
Butter (fat content)	---	---	---	---	---	---	776,443	50.2	776,443	7.2	---	776,443	6.5
Tallow edible and lard	818,275	22.6	167,042	8.8	---	---	686,147	44.4	1,671,464	15.5	50,429	1,721,893	14.4
Other 1/	123,625	3.4	222,515	11.7	349,662	9.4	28,410	1.8	724,212	6.7	527,455	1,251,667	10.3
Total	3,617,349	100.0	1,904,042	100.0	3,719,500	100.0	1,547,023	100.0	10,787,914	100.0	1,198,247	11,986,161	100.0
1975:													
Soybean	2,024,960	53.9	1,568,079	81.6	2,813,729	77.4	22,192	1.3	6,428,960	58.4	447,092	6,876,052	56.5
Cottonseed	154,278	4.1	46,056	2.4	275,737	7.6	---	---	476,071	4.3	95,411	571,482	4.7
Palm	759,982	20.2	31,461	1.6	41,289	1.1	27,689	1.6	860,421	7.8	10,879	871,300	7.2
Butter (fat content)	---	---	---	---	---	---	814,593	47.9	814,593	7.4	---	814,593	6.7
Tallow edible and lard	623,234	16.6	51,417	2.7	---	---	629,759	37.0	1,304,410	11.8	60,383	1,364,793	11.2
Other 1/	193,040	5.2	223,629	11.7	504,477	13.9	207,814	12.2	1,128,960	10.3	546,616	1,675,576	13.7
Total	3,755,494	100.0	1,920,642	100.0	3,635,232	100.0	1,702,047	100.0	11,013,415	100.0	1,160,381	12,173,796	100.0

1/ Includes use of corn, olive, peanut, safflower, sesame, coconut, palm kernel, and other secondary oils. 2/ Includes only the nonfood uses of the above edible oils. Inedible tallow, linseed oil, castor oil, tung oil, tall oil, fish and marine oils are not included.

Source: Oil Crops Program Area, CED, ERS.

desirable color than was previously possible. These were formerly two major weaknesses of palm oil and prevented wider spread use in shortening and margarine.

Recent work has successfully fractionated palm oil, resulting in a liquid oil comparable to peanut or olive oil in consistency and melting characteristics. Manufacturers are able to produce a liquid palm oil with specific desirable characteristics at low temperatures. This is being done in Europe at the present time and could spread to the U.S. in the near future. This enables palm oil to penetrate the cooking and salad oil market, a major market area from which it previously was excluded. These liquid palm oils will have applications as frying oils, margarine oils, cracker spray oils, and consumer salad oils.

One inherent drawback of palm oil, even though it is a vegetable oil, is that it is a saturated oil. Consumer groups and health oriented groups are concerned about the possible increase in saturated fat intake raising the cholesterol level in the diet and thereby possibly endangering more people to heart attacks. Because of consumers' desires to avoid this potential danger the Food and Drug Administration recently issued a regulation requiring that beginning on January 1, 1978, all fats and oils contained in food must be identified by source, not merely categorized as vegetable oils or animal fats.

The saturated versus unsaturated issue is not as important in shortening as it is in other major edible fat products. All of the oil used in manufacturing vegetable shortening and much of the oil used in making margarine must be hardened to produce these semisolid plastic products. Therefore, the use of unsaturated oils to produce these products becomes less relevant. At the present time, shortening is by far the largest use of palm oil and palm oil's saturation shouldn't be a barrier to its use in the market. However, many people do not realize that oils are hardened by the hydrogenation process, which adds hydrogen to the unsaturated fatty acids and makes them into more saturated fatty acids. Hydrogenation improves the stability and color as well as achieves varying degrees of firmness. Oil products produced in this manner are labeled hydrogenated or partially hydrogenated.

For other fat food products which are liquid, such as cooking oil and salad oil dressing, the degree of unsaturation of the vegetable oil from which the product is manufactured is an important consideration to persons seeking to avoid highly saturated foods. Liquid oils which are not hydrogenated are also used in making some margarines. In these uses, soybean oil would be more beneficial than palm or coconut oil. Safflower, sunflower, and corn oil would be even more beneficial than soybean oil (table 4). If because of price or other factors it becomes advantageous to use large quantities of palm oil in cooking and salad oils and margarine, its high saturation may have a significant restraining effect on its use.

Table 4.--Fat content and major fatty acid composition of selected fats and oils (in decreasing order of linoleic acid content)

Fats and oils	Total fat	Fatty acids 1/		
		Saturated 2/	Unsaturated	
			Oleic 3/	Linoleic 4/
	--Percent--			
Safflower	100	10	13	74
Sunflower	100	11	14	70
Corn	100	13	26	55
Cottonseed	100	23	17	54
Soybean	100	14	25	50
Sesame	100	14	38	42
Peanut	100	18	47	29
Lard 5/	100	38	46	10
Palm 5/	100	45	40	8
Olive	100	11	76	7
Coconut	100	80	5	1

1/ Total is not expected to equal "total fat."

2/ Includes fatty acids with chains from 8 through 18 carbon atoms.

3/ Monounsaturated.

4/ Polyunsaturated.

5/ From Fatty Acids in Food Fats, USDA, Agricultural Research Service, Home Economics Research Report No. 7, 1959.

SOURCE: "Fats in Food and Diet," USDA, Agricultural Research Service, Agriculture Information Bulletin No. 361, 1974.

Another important consideration from a health standpoint is the amount of linoleic acid contained in the fat products consumed. Linoleic acid is an essential fatty acid that is important to good nutrition and must be supplied by food since it cannot be formed by the human body. It is necessary for growth and reproduction and helps protect against excessive loss of water and damage from radiation. It is essential for normal skin conditions--lack of it can cause dryness and scaling. Linoleic acid is also involved in the metabolism of cholesterol and may aid in the excretion of cholesterol and products resulting from its breakdown. Most of the unsaturated fats are rich sources of linoleic acid. Safflower and sunflower oils contain 70 percent or more linoleic acid and corn, cottonseed, and soybean contain 50 percent or more (table 4). This compares with coconut oil, 1 percent; palm oil, 8 percent; and lard, 10 percent.

In the final analysis, increased domestic food use of palm oil in the future depends upon consumer acceptance. The law going into effect in January 1978, requiring the labeling of oils contained in edible products separately, will likely result in advertising and educational campaigns which along with price will determine whether Americans will increase their consumption of palm oil. The acceptability and extent of continued use of oil products made from palm oil will determine their future availability and the effect they will have on the diet and health of the U.S. population.

Comparative Advantage

Palm oil's major competitive advantage is its high yield and resulting low cost per pound. It is estimated that oil palms produce about 3,475 pounds of oil per acre (table 5). This compares with around 290 pounds of oil per acre for soybeans in the U.S. However, unlike soybeans, palm produces a relatively small quantity of low quality meal. Even so, converting the products to value based on 1971-75 average prices, the value per acre for oil palms was $665 compared with $162 for U.S. soybeans.

Table 6 contains selected costs of Malaysian palm oil at various palm kernel oil prices. Malaysia has an export tax on palm oil of about 3.7 cents per pound which could vary depending on the price level. With the tax included it is estimated that the breakeven price for palm oil delivered to the U.S. is 12 cents per pound when palm kernel oil is 16 cents per pound. Without the tax the variable cost is about 5.7 cents per pound. At current prices for palm oil of about 16 cents it is still profitable to Malaysia to export palm oil to the U.S.

Refined palm oil exports from Malaysia are increasing. It should be noted that the refined palm oil exports have the advantage of not being subject to the export duties and surcharges.

Table 5.--Value of four oil crops per acre for selected countries, 1971-75 averages

Crop	Country	Yield per acre		Value per acre 1/		
		Oil	Meal	Oil	Meal	Total
		--Pounds--		--Dollars--		
Oil palms	W. Malaysia	2/3,475	500	2/638	27	665
Soybean	U.S.	288	1,272	62	100	162
Sunflowers	USSR	526	658	138	41	179
Peanuts	U.S.	739	972	225	71	296
Peanuts	Nigeria	202	244	61	18	79

1/ Using 1971-75 average prices for Europe.

2/ Includes 3,100 pounds palm oil and 375 pounds palm kernel oil.

Table 6.--Selected costs of Malaysian palm oil at various prices of palm kernel oil 1/

Cost breakdown	Palm oil costs at specified palm kernel oil prices		
	12	16	20
	--Cents per pound--		
Variable	6.5	5.7	4.9
Variable and export duties	10.2	9.4	8.6
Total	12.8	12.0	11.2

1/ Costs include production and processing of the fruit bunches from the oil palm trees plus selling and transportation costs to the U.S. for palm and palm kernel oils. The value of palm kernel oil at specified prices and the value of palm kernel meal at 5 cents per pound were subtracted prior to calculating the various costs for palm oil.

Assumptions:

1. Yield of palm oil of 4.5 short tons per hectare.
2. Extraction rates--
   Palm oil, 20 percent
   Palm kernel oil, 4 percent
   Palm kernel meal, 4.6 percent.
3. Selling costs for palm and palm kernel oils at 1½ cents per pound.

SOURCE: Foreign Agricultural Service data.

Why U.S. Palm Oil Imports

Palm oil imports have increased substantially since 1970, reflecting shortfalls in the domestic supply of fats and oils, and more recently a strong palm oil price advantage. Table 7 contains basic information which will help explain why palm oil imports have increased.

The first sharp increase in U.S. palm oil imports came in 1971/72 2/ when they doubled to 440 million pounds. This increase occurred when domestic production of animal fats declined 423 million pounds and soybean oil production dropped 373 million pounds. Palm oil imports helped fill the need created by the reduced production as U.S. per capita consumption remained the same. Total domestic production of fats and oils dropped again in 1972/73 by an additional 630 million pounds. However, a drawdown in stocks and reduced exports were adequate to meet a relatively constant demand. Imports of palm oil dropped by 77 million pounds.

The two consecutive drops in domestic production brought about increases in fats and oils prices. Soybean oil prices went from an average of 11.3 cents per pound in 1971/72 to 16.5 cents in 1972/73. By the end of the 1972/73 crop year soybean oil stocks were tight and prices continued to rise averaging 31.5 cents per pound in 1973/74. This was in spite of a recovery in domestic fats and oils production, primarily soybean oil, as stocks were being replenished. Palm oil imports again held constant at 346 million pounds.

During mid-1974 it became apparent that domestic production of fats and oils in 1974/75 would be drastically reduced. Prices reflected the situation and rose rapidly with soybean oil prices reaching an average of 43.3 cents per pound in August 1974. As expected, total domestic production declined from 13,997 million pounds in 1973/74 to 11,973 million in 1974/75, a drop of 2,024 million pounds. Production of soybean oil, cottonseed oil, and animal fats all decreased.

Soybean oil prices remained strong, averaging 30.7 cents per pound in 1974/75. However, palm oil prices dropped, averaging 6 cents per pound less than the previous year. This resulted in almost an 8-cent price differential between palm and soybean oil which is very favorable to the use of palm oil in domestic uses. The favorable price differential, coupled with the need for additional domestic supplies, led to a more than doubling of palm oil imports in 1974/75 to 757 million pounds. Even with the sharply increased usage of palm oil, per capita consumption of total food fats and oils dropped by over 3 pounds per person.

2/ Unless otherwise noted the split year will refer to October-September crop year.

Table 7.--Domestic production and imports of major fats and oils, soybean and palm oil prices, and per capita use of total fats and oils, 1966-74

Oil	1966	1967	1968	1969	1970	1971	1972	1973	1974
					Crop year				
					--Million pounds--				
Production:									
Animal fats	3,627	3,530	3,378	3,284	3,494	3,071	2,535	2,627	2,447
Cottonseed oil	1,223	1,020	1,450	1,251	1,235	1,308	1,564	1,552	1,335
Peanut oil	175	198	199	180	266	265	273	195	236
Soybean oil	6,076	6,032	6,531	7,904	8,265	7,892	7,501	8,995	7,375
Other	940	981	943	872	666	639	673	628	580
Total	12,041	11,761	12,501	13,491	13,926	13,175	12,546	13,997	11,973
Imports:									
Palm oil	89	72	161	122	207	440	363	346	757
Coconut and palm kernel	596	561	543	642	711	724	789	689	833
Other	77	87	70	69	72	71	63	99	52
Total	762	720	774	833	990	1,235	1,215	1,134	1,642
					--Cents per pound--				
Prices:									
Soybean oil (crude, Decatur)					12.8	11.3	16.5	31.5	30.7
Palm oil (CIF, N.Y.)					11.8	9.5	14.4	28.9	22.9
Price difference:									
Average					1.0	1.8	2.1	2.6	7.8
Range					-0.8-2.4	0.4-3.1	0.1-7.8	-4.9-10.3	6.1-9.5
					--Pounds per capita--				
Consumption:									
Food use	49.5	50.4	51.3	52.8	52.5	53.3	53.8	53.9	52.2
Nonfood	6.0	5.8	6.6	5.9	4.6	3.8	3.5	4.0	2.5
Total	55.5	56.2	57.9	58.7	57.1	57.1	57.3	57.9	54.7

Factors Considered in Analyzing the U.S. Fats and Oils Outlook

Any outlook analysis for the U.S. fats and oils industry must necessarily take into account the world supply outlook, the joint product relationship between oil and meal or processing byproducts, the interdependencies with the livestock economy, and the key domestic demand factors such as income and population.

World Supply and Utilization

Since 1970 foreign utilization of fats and oils has grown at 1.19 million metric tons per year, slightly above the long-term trend of 1.1 million metric tons per year. Important to this growth has been improved income and growth in population. Using a growth rate of 1.15 million metric tons per year, foreign consumption of fats and oils is projected at about 45 million metric tons by 1980.

Foreign production of vegetable oils, animal fats, and marine oils is projected to increase from 34.5 million metric tons in 1974 to 41.2 by 1980 (table 8). Of this 6.7 million metric tons projected increase, about 2.2 comes from palm oil and about 1.7 from increased foreign soybean oil, mainly from Brazil. These aggregate projections are based primarily on trend and thus are subject to variation due to price level changes and more importantly weather. Any events which upset the supply and demand balance will cause adjustments in production and consumption. Assuming no significant weather problems and relatively stable prices, these projections seem reasonable.

The difference between foreign production and consumption provides some indication of the potential for U.S. exports of fats and oils. The numbers in table 8 indicate a potential for U.S. exports of total fats and oils approaching the 4 million metric tons level by 1980, which is still below the record 4.78 in 1974.

Interdependence in the Fats and Oils Economy

Most fats and oils are either joint products or byproducts of processing. As a result, supply may depend to a large extent not on the oil demand but rather on the demand for the primary product. This is particularly true for cottonseed oil, lard, tallow, and to some extent butter. However, soybean oil is a valuable joint product with meal and plays a more direct role in determining the demand for soybeans. Because of the joint product nature of oilseeds, vegetable oil cannot be analyzed in isolation of meal. Meal is primarily used in livestock rations, thus deriving its demand from livestock output and price. The implications

Table 8.--Fats and oils: Foreign production, U.S. net exports, and apparent foreign consumption 1/

Year	Foreign production 2/	U.S. net exports of fats and oils 2/	Apparent foreign consumption 2/
	--Million metric tons--		
1965	26.87	2.70	29.57
1966	26.78	2.27	29.05
1967	27.93	2.51	30.44
1968	29.02	2.59	31.61
1969	28.42	2.61	31.03
1970	29.62	3.70	33.32
1971	31.83	3.95	35.78
1972	33.14	3.71	36.85
1973	32.00	3.81	35.81
1974	34.47	4.78	39.25
1975 (indicated)	35.53	3.37	38.90
1976 (forecast)	37.05	3.42	40.47
1977 (projections)	3/37.48	4/4.14	5/41.62
1978 (projections)	3/39.14	4/3.63	5/42.77
1979 (projections)	3/39.70	4/4.22	5/43.92
1980 (projections)	3/41.24	4/3.83	5/45.07

1/ Includes oil equivalent of oilseeds, animal fats, and marine oils.

2/ Data for 1965-76 taken from Foreign Agriculture Circular--Oilseeds and Products, FOP 8-75, Dec. 1975, pg. 8, USDA, FAS.

3/ FAS projections of foreign vegetable and marine oils plus a 1½ percent growth in foreign animal fat production.

4/ Difference between projected foreign production and apparent foreign consumption.

5/ Based on a growth rate of 1.15 million metric tons per year.

to the soybean industry are discussed in a later section. Livestock slaughter produces lard and tallow which compete with vegetable oils in the manufacturing of shortening, margarine, and cooking and salad oils and industrial uses.

Livestock production projections by ERS commodity specialists were used as a basis for meal demand and animal fat production. Beef and veal production in the U.S. is expected to continue growing to about 27,000 million pounds by 1980. Pork production is expected to increase significantly by 1978 to 14,700 million pounds but then decline to 14,000 million by 1980. Chicken, turkey, egg, and milk production are expected to increase modestly.

Domestic Demand Factors

Important factors in determining the level of usage for food fats and oils are the price level, growth in income, and population. Elasticity estimates for the consumption of total food fats and oils are as follows:

Variable	Elasticity
Income	0.25
Population	1.00
Price	-.10

Summary of Assumptions

1. U.S. population is based on Census Bureau's Series II population projections.
2. U.S. real per capita income will grow at a rate of 1.6 percent per year.
3. Normal growing conditions exist during the period 1976/77 through 1979/80.
4. Continuation of present international and domestic trade policy.
5. Labeling law going into effect in January 1978 will have little effect on palm oil markets in the U.S. before 1980.
6. Soybean meal yield of 47.3 pounds per bushel and a soybean oil yield of 10.7 pounds for 1976/77 to 1979/80.
7. Future soybean crushing margins ranging from 10 to 50 cents per bushel.
8. Foreign animal fat growth rate of 1½ percent beginning in 1977.
9. An apparent foreign consumption growth rate of 1.15 million metric tons per year beginning in 1977.
10. A continuation of the downward trend in lard yield and relativity constant yields for tallow and grease.

Outlook for Domestic Food Fats and Oils

1975/76 Crop Year

A sharp increase of 1.5 billion pounds in soybean oil production over the 1974/75 level is expected. Production of cottonseed oil and animal fats is expected to decline in 1975/76, as in 1974/75, but will be offset by an expected increase in peanut oil production (table 9).

In addition to the increased domestic production of food fats and oils, the importation of coconut, palm kernel, and palm oils is projected to increase 660 million pounds over the previous year. Much of this increase has already occurred in response to very favorable price spreads relative to soybean oil prices during the 1974 crop year. The price spread between palm and soybean oils has declined dramatically from a 9.5 cent per pound differential last July to a negative difference in March (table 10).

A 2- to 3-month shipping time from Malaysia to the West and East Coasts plus more lead time to execute the transaction means 4 to 5 months between placing an order and the actual arrival into the U.S. Sources monitoring shipments leaving Malaysia indicate that imports of palm oil should be about 65-70 million pounds per month through May, substantially below the October-December levels of over 100 million pounds per month. This turnaround is expected to continue for the rest of the crop year, resulting in palm oil imports of about 1 billion pounds. About 27 million pounds are expected to be reexported, of which about half have been refined. Monthly imports of palm oil are subject to variability because of the large volume carried per ship which may be reported a month earlier or later depending upon arrival date.

The increase in food fats and oils supplies is reflected in the sharp drop in price as represented by soybean oil falling from over 30 cents per pound last year to an expected 16-17 cents average this year. Consumers are expected to respond to the lower prices and increased disposable incomes by increasing their per capita use of fats and oils to 58.8 pounds. Even with the increase in domestic use this year the total fats and oils carryover stocks in the U.S. are expected to increase sharply to nearly a billion pounds due mainly to large buildups of peanut oil and soybean oil.

1976/77 to 1979/80 Crop Years

The high food fats and oils stock levels carried into 1976/77 are not expected to be worked down to more normal levels until 1979/80. The consequence of these high stocks plus expected domestic and foreign production of food fats and oils versus projected world consumption is that soybean oil prices of 12-14 cents per pound are projected for this period. The projected supplies of domestic food fats and oils are adequate to meet domestic needs and maintain growing export demands when

Table 9.--Domestic fats and oils supply and disappearance, 1966-74 and projections for 1975-79, crop year (October)

Item	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
							--Million pounds--							
							ANIMAL FATS (BUTTER (FC), LARD, EDIBLE TALLOW)							
Imports	3	4	2	2	2	2	3	45	2	2	2	2	2	2
Production	3,627	3,530	3,378	3,284	3,494	3,071	2,535	2,627	2,447	2,125	2,452	2,527	2,472	2,387
Exports, re-exports, shipments	258	277	320	423	410	325	167	229	168	135	174	199	189	174
Ending minus beginning stocks	+189	-57	-85	+28	+84	-95	-101	+41	-86	-8	0	0	0	0
Domestic use	3,183	3,313	3,147	2,836	3,002	2,844	2,471	2,401	2,367	2,000	2,280	2,330	2,285	2,215
							COCONUT AND PALM KERNEL OILS							
Imports	596	561	543	642	711	724	789	689	833	1,250	800	830	845	875
Production	324	400	376	298	61	0	0	0	0	0	0	0	0	0
Exports, re-exports, shipments	11	7	9	9	17	20	19	17	14	40	35	15	15	15
Ending minus beginning stocks	-72	+23	+6	-11	+17	+1	-2	+13	-21	+50	-5	0	0	0
Domestic use	981	930	905	940	738	704	771	659	840	1,160	770	815	830	860
							OTHER VEGETABLE OILS 1/							
Imports	74	83	68	67	70	69	60	54	50	50	50	50	50	50
Production	2,014	1,799	2,216	2,005	2,106	2,212	2,510	2,375	2,151	2,269	2,375	2,455	2,525	2,485
Exports, re-exports, shipments	103	80	198	547	496	613	779	700	835	800	780	745	815	750
Ending minus beginning stocks	+3	-115	+296	-303	-18	+35	-21	-13	-47	+267	-110	-60	-35	-20
Domestic use	1,981	1,918	1,790	1,829	1,697	1,632	1,812	1,741	1,319	1,252	1,755	1,820	1,795	1,805
							PROCESSED FOOD OILS							
Domestic use 2/	-76	-59	-61	-63	-67	-70	-67	-91	-77	-90	-80	-85	-90	-95
							SOYBEAN OIL							
Production	6,076	6,032	6,531	7,904	8,265	7,892	7,501	8,995	7,375	8,949	8,510	8,670	8,830	9,045
Exports, re-exports, shipments	1,105	993	899	1,449	1,782	1,440	1,086	1,461	1,090	925	1,050	1,150	1,200	1,250
Ending minus beginning stocks	+134	-56	-125	+128	+230	+12	-269	+278	-233	+574	-40	-130	-170	-105
Domestic use	4,837	5,096	5,756	6,328	6,253	6,439	6,685	7,255	6,518	7,450	7,500	7,650	7,800	7,900
							PALM OIL							
Imports	89	72	161	122	207	440	363	346	757	1,000	630	550	600	700
Production	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exports, re-exports, shipments	0	0	0	8	8	32	40	24	27	27	30	30	30	30
Ending minus beginning stocks	-4	+15	0	-8	+16	+57	-33	+28	+38	+100	-25	0	0	0
Domestic use	93	57	161	122	182	351	356	294	692	873	625	520	570	670
							ALL FOOD FATS AND OILS							
Imports	762	720	774	833	990	1,235	1,215	1,134	1,642	2,302	1,482	1,432	1,497	1,627
Production	12,041	11,761	12,501	13,491	13,926	13,175	12,546	13,997	11,973	13,343	13,337	13,652	13,827	13,917
Exports, re-exports, shipments	1,477	1,357	1,426	2,436	2,713	2,430	2,091	2,431	2,134	1,927	2,069	2,139	2,249	2,219
Ending minus beginning stocks	+250	-190	+92	-166	+329	+10	-426	+347	-255	+983	-180	-190	-205	-125
Domestic use	10,999	11,255	11,698	11,992	11,805	11,900	12,028	12,259	11,659	12,645	12,850	13,050	13,190	13,355
U.S. population (April) mil.	198.2	200.2	202.1	204.2	206.6	208.4	210.0	211.6	213.1	214.9	216.5	218.4	220.3	222.5
							--Pounds--							
Per capita use food fats and oils:														
Total	55.3	56.2	57.9	58.7	57.1	57.1	57.3	57.9	54.7	58.8	59.3	59.8	59.9	60.0
Food use	49.3	50.4	51.3	52.8	52.5	53.3	53.8	53.9	52.2	54.8	55.3	55.7	56.0	56.3
Nonfood use	6.0	5.8	6.6	5.9	4.6	3.8	3.5	4.0	2.5	4.0	4.0	4.1	3.9	3.7

1/ Includes corn, cottonseed, olive, peanut, safflower, and sesame oils. 2/ Equivalent to the exports of processed food oils.

Table 10.--Soybean oil and palm oil prices, price differentials, and palm oil imports by months, 1974-76

Month	1974				1975				1976			
	Soybean oil price1/	Palm oil price2/	Difference	Palm oil imports	Soybean oil price	Palm oil price	Difference	Palm oil imports	Soybean oil price	Palm oil price	Difference	Palm oil imports
	--Cents/lb.--			Mil. lb.	--Cents/lb.--			Mil. lb.	--Cents/lb.--			Mil. lb.
January	28.6	28.9	-.3	26	33.6	24.1	9.5	49	16.2	15.7	.5	69
February	36.4	34.7	1.7	19	29.4	20.8	8.6	56	16.3	16.7	-.4	109
March	30.2	35.1	-4.9	20	29.1	20.5	8.6	64	16.6	17.1	-.5	70
April	28.2	28.0	.2	22	28.2	19.8	8.4	30				
May	29.4	27.8	1.6	41	23.6	16.9	6.7	65				
June	31.6	28.7	2.9	13	23.3	15.6	7.7	70				
July	40.5	31.1	9.4	25	27.5	18.0	9.5	131				
August	43.3	33.0	10.3	47	28.5	21.4	7.1	57				
September	40.7	31.8	8.9	46	24.4	18.8	5.6	84				
October	42.3	35.3	7.0	69	21.4	19.0	2.4	100				
November	40.4	34.3	6.1	35	18.9	17.8	1.1	143				
December	38.0	29.5	8.5	48	16.8	16.2	.6	113				

1/ Crude, tanks, f.o.b., Decatur.

2/ Crude, c.i.f., New York.

imported oils from oil palms (palm, palm kernel, coconut) are about two-thirds their 1975/76 levels. The total U.S. net exports of fats and oils are within 1 percent of the foreign consumption estimated in table 8 after adjusting the net food fats and oils exports indicated in table 9 to reflect projected exports of industrial fats and oils and oil equivalent of oilseeds.

Domestic consumption of food fats and oils is expected to continue increasing to 60 pounds per capita by 1979/80 due to income growth and relatively low food fats and oils prices. Soybean oil is expected to maintain its dominant position and comprise about 60 percent of the total food fats and oils in 1979/80. Growth in the proportion of domestic use by soybean, cottonseed, and peanut oils will offset the declines projected for palm, coconut, and palm kernel oils. Food use of animal fats in 1979/80 is expected to be about 17 percent of the total, nearly the same as in 1975/76.

Implications for the Soybean Industry

Since soybeans contain high amounts of protein, meal demand is the key factor in determining the domestic soybean crush. Domestic demand for soybean meal for 1976/77 to 1979/80 was projected from the high-protein feed demand based upon projected meat, eggs, and milk production. The domestic demand and projected export demand for soybean meal were the major determinants of the expected crush levels. Crush levels, in turn, generated the projected domestic soybean oil supplies.

The high crushing rate of 825 million bushels in 1975/76 is not consistent with projected soybean meal demand for feed and exports, but the crush for the first 7 months is already 500 million bushels. It is assumed that soybean meal stock levels are being built at points other than at crushing mills, i.e., so-called "invisible" stocks. Low supplies of cottonseed meal are being at least partially offset by increased peanut meal production.

Crushings for soybean meal are expected to taper off over the last 5 months of the crop year. Soybean meal export demand will decline if the full consequences of the recent EEC scheme to dispose of surplus skim milk powder are realized. These consequences are still subject to much uncertainty and may be offset to a large degree by less than anticipated exports of Peruvian fishmeal to the EEC. Domestic crush for 1976/77 could decline somewhat if the assumed buildup in invisible stocks is discontinued. With increases in high protein animal units and some upward trend in meal exports, crush is projected to increase from 1977/78 through 1979/80 reaching approximately 850 million bushels. Such a crush would yield more than 9 billion pounds of soybean oil, more than one-fifth above 1974/75.

Farmers are expected to respond to lower soybean prices and less favorable current price relationships by shifting plantings from soybeans to corn and cotton for the 1976/77 crop. Once this initial shift occurs the price relationship should improve in the following crop years and, with a moderate increase in soybean production through 1979/80, output would approximate 1.5 billion bushels.

Soybean meal prices are expected to offset much of the decline in oil prices, so that soybean prices may average in the $4.30 to $4.85 per bushel range. Returns to soybean producers in various regions at these prices can be found in table 11. In this price range variable costs are covered but returns to land and management could be low.

Table 11.- -Regional soybean returns per acre at specified soybean prices

Region	Cost per bushel 1/	Yield per acre 2/	Returns per acre at specified soybean prices $/bu.					
			3.00	3.50	4.00	4.50	5.00	5.50
	$/bu.	Bu.	--$/acre--					
Variable cost:								
Lake & Corn Belt States	2.19	30.0	24.30	39.30	54.30	69.30	84.30	99.30
Northern Plains	2.42	23.2	13.46	25.06	36.66	48.26	59.86	71.46
Delta	3.42	21.4	-8.99	1.71	12.41	23.11	33.81	44.51
Total cost 3/:								
Lake & Corn Belt States	4.02	30.0	-30.60	-15.60	-.60	14.40	29.40	44.40
Northern Plains	4.36	23.2	-31.55	-19.95	-8.35	3.25	14.85	26.45
Delta	4.73	21.4	-37.02	-26.32	-15.62	-4.92	5.78	16.48

1/ Estimated 1976 costs.

2/ Assumes favorable weather.

3/ Land cost based on weighted share rent, cash rent, and owner operator at acquisition.

Impacts of Uncertainties

Since the U.S. has been and will continue to be a net exporter of fats and oils, prices will be largely determined by world supply and demand conditions. If the projected increase in world production of fats and oils is realized the result will be downward pressure on prices and corresponding increase in utilization. Palm oil is the major factor behind this expected increase. The U.S. is projected to import significant volumes of palm oil between now and 1980 but less than the 1974 and 1975 levels. The basic reason for this expected decline is recovery in the domestic production of animal fats, cottonseed, and soybean oil with domestically produced fats and oils being price competitive. There are several uncertainties which could alter the analysis.

1. A reduction in domestic fats and oils production could create an additional need for palm oil over the quantities shown.
2. The mix of oils consumed in the U.S. could change to more palm oil if exports of domestically produced fats and oils differ from the levels projected.
3. Lower prices of fats and oils could result in expanded usage in the manufacture of synthetic detergents and livestock feeds--factors which were not accounted for in the above projections.

    a. With the large price increases which have taken place in the past few years in petroleum based products and the anticipated lower prices for natural fats and oils in the future, a reversal of what has happened during the past 25 years could take place. Natural fat based products could substitutes for petroleum derived products. For example, it is our understanding that even at today's prices natural fats have a price advantage in the manufacture of synthetic detergents. With the expected long-term lower prices for natural fats and oils, this could result in a large industrial market for natural fats and oils. This switch would also result in a more biodegradable product which would help in solving one of the major water pollution problems.

    b. The anticipated lower price of fats and oils brings to light another use which could expand and absorb large quantities of fats and oils--the feed industry. Last year because of the relatively high price of fats and oils the mixed feed industry was using about the minimum amount of fat possible and still maintain efficient feed formulas. The broiler industry, which is the largest market for mixed feed, usually adds fat to feeds at about the 4 percent level. If fat becomes a cheap source of calories the level could rise to 8 percent. This has traditionally been a market for inedible tallow and grease; however, palm oil or other fats and oils could be used.

4. Standards of living in the world may increase faster than expected and combined with the anticipated lower prices result in a faster rate of consumption.
5. Increased palm oil production could exert downward pressure on the production of other oilseeds primarily produced for oil--rapeseed, sunflower, peanuts for crush, etc.
6. Shortfalls in world production of fats and oils and oilseeds could more than offset the projected increase of palm oil supplies or a larger than expected production could further aggravate the anticipated low price outlook.

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